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Chronic CAD/Stable Ischemic Heart Disease

CLINICAL PREDICTORS OF CORONARY ARTERY CALCIFICATION IN END-STAGE RENAL DISEASE PATIENTS: THE PACE (PREDICTORS OF ARRHYTHMIC AND CARDIOVASCULAR RISK IN END-STAGE RENAL DISEASE) STUDY

Moderated Poster Contributions
Poster Sessions, Expo North
Saturday, March 09, 2013, 3:45 p.m.-4:30 p.m.

Session Title: Chronic CAD: Inflammation, Thrombosis and Calcification
Abstract Category: 9. Chronic CAD/Stable Ischemic Heart Disease: Basic
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Background: - The association of end-stage renal disease (ESRD) and coronary artery calcification (CAC) is well known, but it is unclear how traditional risk factors contribute to coronary plaque burden in this high risk population. The aim of this study is to identify which clinical parameters best correlate with CAC among patients with ESRD.

Methods: - The PACE study is a prospective cohort study to investigate sudden cardiac death among ESRD patients in hemodialysis. Patients enrolled in the study had a baseline CAC assessment and were stratified as follow: 0 - no calcium; 1-99 - mild disease; 100-399 - moderate disease; ≥400 - severe disease. Clinical predictors (age, gender, race, body-mass index [BMI], smoking history, hypertension, diabetes, personal and family history of coronary artery disease [CAD]) were analyzed among different CAC strata using analysis of variance. Multivariable logistic regression was used to determine the association between each factor and severe disease (CAC≥400). .

Results: - A total of 201 patients (mean age 55.2±13.4 years, 113 men) were included in the analysis, with a median CAC 19 (IQR 0, 380). Age, personal and family history of CAD were associated to higher CAC levels, while being African-American was associated to lower levels of CAC (Table 1).

Conclusions: - Although ESRD is a condition that leads to high CAC levels, additional risk stratification for CAD using clinical information is necessary. However, traditional risk factors can play a different role in this population.

Table 1 - Association of traditional clinical parameters with different CAC levels (n = 201)

	No disease (CAC = 0) n = 77	Mild disease (CAC - 1-99) n = 43	Moderate disease (CAC - 100-399) n = 29	Severe disease (CAC ≥ 400) n = 52	p	Odds Ratio (CAC ≥400)	Adjusted Odds Ratio (CAC >400)
Age (years)	46.8±13.0	54.7±11.0	59.9±11.9	62.9±11.4	<0.0001	2.5 (1.8 - 3.7)	
Male gender	42 (55%)	20 (47%)	17 (59%)	34 (65%)	0.32	1.4 (0.8 - 2.8)	
Race (African-American)	67 (87%)	33 (77%)	19 (66%)	27 (52%)	<0.0001	0.3 (0.2 - 0.6)	0.4 (0.2-0.8)
BMI (Kg/m2)	29.6±7.4	27.4±8.0	28.6±6.9	26.8±5.6	0.096	0.7 (0.5 - 1.0)	0.7(0.5 - 1.0)
Hypertension	75 (97%)	42 (98%)	29 (100%)	51 (98%)	0.84	1.0 (0.1 - 9.8)	1.6 (0.1-28.5)
Diabetes	39 (51%)	19 (44%)	15 (52%)	32 (62%)	0.17	1.7 (0.9 - 3.1)	1.9 (0.9-3.9)
Smoking	41 (53%)	23 (53%)	22 (76%)	34 (65%)	0.11	1.4 (0.7 - 2.6)	1.2 (0.6-2.4)
Hx. of CAD	13 (17%)	7 (16%)	8 (28%)	22 (42%)	0.0086	2.5 (1.3 - 4.8)	1.4 (0.7-2.9
Fam. Hx. CAD	22 (29%)	12 (28%)	16 (55%)	29 (56%)	0.004	2.2 (1.2 - 4.0)	2.7 (1.3-5.6)